

Vaccinium Myrtilloides, L., var. *microphyllum*, Hook. A straggling bush 4 to 6 feet high, in the Alpine woods of the Cascades, rare, fruit scarce and unimportant.

Vaccinium ovatum, Pursh. Sand hills on the coast. A shrub 1 to 3 feet high, abundant and exceedingly fruitful. Large quantities of the fruit are collected by the Indians and sold to the inhabitants, but it is inferior in quality to that of other species.

Rhododendron Californicum, Hook. A large shrub in subalpine woods of the Cascades, 4 to 10 feet high, bearing large flowers, very ornamental.

Rhododendron albiflorum, Hook. A rare shrub, 3 feet high, in the Alpine woods of the Cascades, with inconspicuous flowers.—ELIHU HALL, *Athens, Ill.*

[To be continued.]

✓ BRYOLOGICAL NOTES BY C. F. AUSTIN.—*CERATODON MINOR*, *n. sp.*—Facile dignoscitur a *C. purpureo*, cui cæterum simillimus, statura minore, foliis ob costam longissime excurrentem aristatis, pedicello tenuiore, capsula brevior, peristomii dentibus angustioribus levioribus solum inframedium articulatis et (angustissime) marginatis.

West of the Frazer River, June 5th, 1875, *Macoun*.

Nearest to *C. purpureus*, var. *aristatus* AUST. *Musc., Appalach.*, n. 117; but that is more robust; with longer stems; leaves with the stouter costa not so long excurrent; color of the whole plant paler (pedicel and capsule yellowish), and with the peristome as in the typical form.

In *C. MINOR* the stems are about 2 lines high. The very slender pedicel and shining capsule are of a dark red color. The annulus and operculum are about as in *C. purpureus*. The peristomal teeth are nearly of the same length but much narrower and neither articulated nor margined above the middle, very narrowly margined and with only about half as many articulations and but 2 or 3 cross-bars below the middle. Inflorescence as in *C. purpureus*.

CRYPHEA RAVENELII, *n. sp.*—Plantæ humilis sordido-virides; caule vix unciam longo julaceo subarcuato subsimplici, foliis siccitate appressis in humido apertis rotundatis concavis obtusiusculis opacis, margine plano integerrimo versus apicem subincurvo, dorso minutissime papilloso, costa validiuscula supra medium procedente apice subflexuosa et sæpe inequaliter bierura, reti obscure granuloso minuto uniformiter brevi; ramulis fructifris brevissimis secundis, foliis perichaetialibus pallidis arcte convolutis tenuis abrupte breviter acuminatis, costa tenui longe infra apicem evanida, capsula feres sessili ovali solidiuscula ore limbo lato solidissimo rubro circumcincta, peristomii dentibus 8 rubris solidis e basi lata subulato-filiformibus siccitate erecto-incurvis in humido erecto-adpressis valde noduloso-articulatis in medio linea divisurali notatis pertusisque, ciliolis nullis, calyptra operculo annuloque haud visis: florescentia *C. glomerata*.

Rome, Georgia, *Ravenel*.

Resembles *C. glomerata*, but is readily distinguished by its obtusish opaque granulose leaves not squarrose when moist, by its shorter and less abruptly pointed perichaetial leaves not costate to the apex, by its shorter and more solid capsule with a broad solid rim and without a persistent annulus, by its solid red peristomal teeth erect-appressed when moist (slightly spreading in *C. glomerata*) and by the want of an inner peristome.

BARBULA RAVENELII, *n. sp.*—Plantæ parvæ sordido-flavescentes caespitosæ rigidæ; caule 2-3 lineas longo erecto simplici, foliis siccitate crispis ovato et lanceolato-oblongis subcarinatis obtusiusculis et obtusis pro more minutissime apiculatis, apiculo paululum recurvo, margine infra medium angustissime recurvo, costa terreti percurrente, reti minuto haud granuloso basilari paulum majore et laxiore; cætera desunt.

On the earth, Georgia, *Ravenel*.

Resembles *B. unguiculata*, HEDW., but differs in its shorter more oblong not linguulate leaves, with the ordinary cells not granulose, the basal ones less pellucid etc. Costa minutely papillose on the back.

BARBULA? *WOLLEI*, *n. sp.*—Plantæ dense cæspitosæ, subfragiles, saturate virides; caule erecto subsimplici, foliis siccitate suberispatis nudifactis flexuoso-patentibus sublinearibus apice canaliculato excepto planiusculis paulo undulatis margine planis minutissime eroso-serratis apice subacuminato-acutatis, costa percurrente haud lutescente: flores et fructu ignoti. (An *Trichostomii* vel *Didymodontis* species.?)

Rocks in a ravine, near Bethlehem, Pennsylvania, *Ran.*

Intermediate in many respects between *Barbula cæspitosa* and *Didymodon cylindricus*. From the former it differs in its longer stems, rather broader less carinate less undulate and more fragile leaves, minutely erose-serrate on the margin, sub-acuminate by the incurved margins at the apex, rather less pellucid at the base, and with the costa neither pellucid when moist nor shining on the back when dry. From the latter it differs in its twice larger size, broader, less fragile acuminate erose-serrate leaves, etc.

TRICHOSTOMUM COLORADENSE, *n. sp.*—Plante pusillæ fusco-virides; caule tenui subflexuoso 2-3 lineas longo, foliis inferioribus remotiusculis superioribus congestis patulo-incurvis linealibus toto longitudine valde convolutis acutiusculis minutissime granuloso-papillosis obscure minute areolatis, basi subpellucida, margine plana integerrima tenui, apice extremo subpellucido nonnullo minute serrato, costa basi lata deplanata tenuissima supra medium vix a lamina distinguenda longe ante apicem evanida: cætera desunt.

Yosemite Valley. Communicated by *Mr. James*.

This species is well distinguished from all others of the genus known to me by its long linear convolute leaves plane on the margin and incurved towards the apex, and with a remarkably thin costa which is not at all prominent on the back. The cells at the base of the leaf are very small narrow and pellucid, soon passing into quadrate, and then into granular above.

SOME NOTES ON VARIATIONS.—*Liatrix scariosa*, *L.*, found in 1873-4 around Grand Rapids, Mich., frequently had as many as 80 heads on a spike, heads often as many as 60-flowered. *Liatrix squarrosa*, *Willd.*, often had the remarkable number of from 70 to 92 florets in a head. *L. squarrosa*, *L. cylindrica*, *L. scariosa*, and *L. pycnostachya*, almost always presented the characters of pubescent achenia, and punctate leaves and scales. But the most remarkable *Liatrix* was one that seemed to be intermediate between *L. scariosa*, and *L. squarrosa*, found south of the city along side of the Grand River Valley R. R. Heads of flowers usually large, and the upper ones—very seldom the lower—had colored scales, much longer than the florets, intermixed with them. Sometimes there would be twelve or fifteen of these scales; often not more than five or six. Otherwise the receptacle was smooth. Have never seen this feature in any other locality, nor heard of it anywhere.

Another singular variation noticed was in the *Ranunculus multifidus*, Pursh[*R. Purshii*, Rich.]. It very often occurred, in the numerous ponds around Grand Rapids, with double and quilled flowers and often with the scales changed to tubular appendages, with an entire, or lacerate border. The flowers were very large for the species, and the leaves sometimes very much dissected, sometimes with but few divisions. On one occasion I came upon a patch—or field—of some two acres nearly covered with the bright golden flowers. I could see them for a long distance before I reached them, and when I reached the border of what I afterwards found was a drained pond I was much surprised as well as interested to find all the plants growing in the moist soil with leaves not more divided than in *R. bulbosus*, and stems from five to ten or twelve inches high, and both leaves and stems pubescent. There were two or three low places